

Application No.: 09/746933

Case No.: 49837US051

Amendments to the Claims:

The following Listing of Claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (original) An optical imaging system comprising:

- a) an illumination system providing a beam of light, the illumination system having an $f/\#$ less than or equal to 2.5;
- b) a Cartesian polarizing beam-splitter having a first tilt axis, oriented to receive the beam of light, wherein the Cartesian polarizing beam splitter nominally polarizes the beam of light with respect to the Cartesian beam-splitter, wherein a first polarized beam of light having a first polarization direction is folded by the Cartesian polarizing beam splitter and a second polarized beam of light having a second polarization direction is transmitted by the Cartesian polarizing beam splitter;
- c) a color separation and recombination prism optically aligned to receive one of the polarized beams of light, said prism having a second tilt axis, a plurality of color separating surfaces, and a plurality of exit surfaces, wherein the second tilt axis is oriented perpendicularly to the first tilt axis of the Cartesian polarizing beam-splitter so that the polarized beam is nominally polarization rotated into the opposite polarization direction with respect to the color separating surfaces and a respective beam of colored light exits through each of the exit surfaces; and
- d) a plurality of polarization modulating imagers, each imager placed at one of the exit surface of the color separating and recombining prism to receive one of the respective beams of colored light, wherein each imager can separately modulate the polarization state of the beam of colored light incident on said imagers.

2. (original) The optical imaging system of claim 1, wherein the first polarization direction is nominally s-polarization and the second polarization direction is nominally p-polarization.

Application No.: 09/746933

Case No.: 49837US051

3. (original) The optical imaging system of claim 1, wherein the first polarization direction is nominally p-polarization and the second polarization direction is nominally s-polarization.
4. (original) The optical imaging system of claim 1, wherein the illumination system provides a beam of substantially pre-polarized light.
5. (original) The optical imaging system of claim 1, wherein the color separation and recombination prism includes at least three exit surfaces, and the plurality of imagers includes at least three imagers, wherein each of the colored light beams is a different color and each imager receives one of the different color light beams.
6. (previously amended) The optical imaging system of claim 1, wherein each imager reflects a polarization modulated image, wherein the images reflected by the imagers enter the color separation and recombination prism and the prism recombines the images into a single combined image, wherein the combined image is transmitted by the Cartesian polarizing beam splitter.
7. (original) The optical imaging system of claim 6, further comprising a projection lens assembly, wherein the combined image is projected by the lens assembly onto a surface for viewing.
8. (original) The optical imaging system of claim 1, wherein the optical system is a front projection system.
9. (original) The optical imaging system of claim 1, wherein the optical system is a rear projection system.
10. (original) The optical imaging system of claim 1, wherein the color separation and recombination prism includes a Philips prism.

Application No.: 09/746933

Case No.: 49837US051

11. (original) The optical imaging system of claim 1, wherein the Cartesian polarizing beam splitter includes a multilayer optical film.
12. (original) The optical imaging system of claim 1, wherein the polarization modulating imagers include a LCOS imager.
- 13-24 (canceled) A projection system comprising:
25. (previously presented) The optical imaging system of claim 1, wherein the Cartesian polarizing beam splitter is a wire grid polarizer.
26. (canceled)